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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,006	09/22/2003	Tetsuya Shiozaki	Q77349	5832

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EXAMINER

NWAONICHA, CHUKWUMA O

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,006

Applicant(s)

SHIOZAKI ET AL.

Examiner

Chukwuma O. Nwaonicha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claims 1-5 are pending in the application.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt et al., {US 2,776,996}.

Applicants claim a method for producing a 3-methylthiopropional, the method comprising the step of supplying an acrolein and a methyl mercaptan together or sequentially with an acidic compound and a basic compound into a reaction system to react the acrolein with the methyl mercaptan, wherein the basic compound is used in an amount of about 0.3 mol or less per mole of the acidic compound.

Hunt et al. teach an improved process for the manufacturing of beta-methylmercapto-propionaldehyde. The process involves the reaction of acrolein and a methyl mercaptan in the presence of acid-base catalyst as shown below. The acid concentration ranges from 0.05 to 4 moles per mole of base employed or even 10

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equivalents per equivalent of base employed. See column 2, lines 20-30. These ranges overlaps the presently claimed ranges.

Hunt et al. process involves the use of acid catalyst in excess of the base catalyst to effect neutralization of the base, to avoid secondary reaction in the system and to afford consistently high yield and high purity of beta-methylmercapto-propionaldehyde. See column 3, lines 10-14. Hunt et al. also teach a process wherein the reactants and the catalyst are added in different order as shown below.

The acid may be added to the acrolein and then fed together therewith into the methyl mercaptan-nitrogenous base mixture. Or the acid may be entered first into the mercaptan-base mixture, into which the acrolein is then fed. Or the acrolein and methyl mercaptan may first be mixed together, the acid added, and then the nitrogenous base may be fed in. Or again, the methyl mercaptan may be fed into a mixture of the acrolein, acid and base.

The above anticipates the process recited in the rejected claims within the meaning of section 102.

Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Sumitomo Chemical Company Ltd., {GB 1,166,961}.

Applicants claim a process wherein the acidic compound is previously mixed with each other before being supplied into the reaction system. GB 1,166,961 discloses a process wherein the base catalyst (pyridine) and acid catalyst (acetic acid) are

previously mixed before reacting with the acrolein and the mercaptan compound. See page 4, line 104-110.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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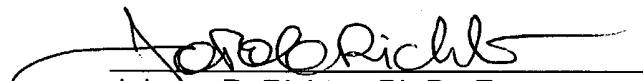
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Chukwuma O. Nwaonicha, Ph.D.

Patent Examiner

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December 7, 2004



Johann R. Richter, Ph.D., Esq.
Supervisory Patent Examiner,
Technology Center 1600